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UNITED STATES DISTRICT COURT

DISTRICT OF NEVADA

PHARMA TECH SOLUTIONS, INC. and DECISION IT CORP., Plaintiff, v. LIFESCAN, INC., LIFESCAN SCOTLAND, LTD. and JOHNSON AND JOHNSON Defendants.	Case No.: 2:16-cv-00564-RFB-PAL **DECLARATION OF JOSEPH WANG IN OPPOSITION TO DEFENDANTS' MOTION TO DISMISS**

I, Dr. Joseph Wang, declare:

1. I am an adult individual and make this Declaration based on personal knowledge. I have been retained by Plaintiffs Pharma Tech Solutions, Inc. and Decision IT Corp. ("Plaintiffs"). I have personal knowledge of the facts set forth in this Declaration unless otherwise stated. If called as a witness, I could and would competently testify to the facts set forth in this Declaration.

2. I am a Distinguished Professor in the Department of Nanoengineering at the University of California, San Diego. I was awarded a D. Sc. From the Israel Institute of Technology in 1978. I have authored over 900 research papers, am a named inventor of ten patents, and have written 12 chapters and 9 books, including *Analytical Electrochemistry* and *Electrochemical Sensors, Biosensors And Their Biomedical Applications*. I received the *American Chemical Society Awards* for Chemical Instrumentation and Electrochemistry in both 1999 and 2006, respectively. I have also received the Institute for Scientific Information's 'Citation Laureate' Award for being the Most Cited Scientist in Engineering from 1991 to 2001. A copy of my curriculum vitae and a list of selected publications (from over 900 peer-reviewed papers) are attached hereto as Exhibits 1 and 2. A true and correct copy of my article *Electrochemical Glucose Biosensors,* 108 Chem Rev. 814 (2008) is attached hereto as Exhibit 3, and fully incorporated by reference herein.

3. In 2012, I won the 2012 Breyer Medal of the Royal Australian Chemical Institute, which is awarded for internationally recognized contributions in the field of electrochemistry.

4. I was named as an Honorary Professor at National University (Cordoba, Argentina) in 2004, an Honorary Doctor Causa from Complutense University (Madrid, Spain) in 2007, an Honorary Member of the Slovenia National Institute of Chemistry in 2007, an Honorary Professor from University of Science Technology Beijing (China) in 2011, an Honorary Doctor Causa of Alcala University (Spain) in 2011, and a Nanyang Professor from NTU (Singapore) in 2008. I have served as a Fellow of the American Institute for Medical and Biological Engineers and the Japan Society for the Promotion of Science. In 1995 and 1997, I was the most cited electrochemist in the world, and was recognized as the ISI's "Most Cited Researchers in Chemistry" from 1997 to 2007.

5. I have reviewed Plaintiffs' Complaint and the attachments thereto. I have also reviewed the Motion to Dismiss filed by Defendants Lifescan, Inc., Lifescan Scotland, Ltd. and Johnson & Johnson ("Defendants").

6. The claim charts attached to the Complaint support, and do not contradict, Plaintiffs' allegations. Defendants' Motion relies heavily on a figure taken from U.S. Patent No. 7,250,105 (the "'105 patent"), Table 1, which Defendants have represented is practiced by the One Touch Ultra system ("Accused Products"). I have reviewed the '105 patent. Contrary to Defendants' assertions, Table 1 evidences that the Accused Products do practice the Patents-in-Suit.

The Patents-in-Suit

7. Claim 1 of both of the patents at issue in Plaintiffs' lawsuit, U.S. Patent Nos. 6,153,069 (the "'069 patent") and 6,413,411 (the "'411 patent) (collectively, the "Patents-in-Suit"), claim an apparatus and method, respectively, in which an electrical current is passed through a sample fluid and measured two different times. The Patents-in-Suit both refer to the "Cottrell equation", which predicts how the current generated by a sample will change over time.

8. In electrochemistry, the Cottrell equation describes current decay as proportional to the reciprocal of the square root of time in a controlled potential experiment. It describes the decay pattern of a current generated by reactants in a diffusion-controlled (diffusion limited) reaction: the current decays as a linear function of the inverse of the square root of time ($1/t^{1/2}$). Thus to determine whether the current generated by a given reaction obeys the Cottrell equation, the current versus $1/t^{1/2}$ is graphed. If a reaction obeys the Cottrell equation, one would expect that a plot of current versus $1/t^{1/2}$ would generate a straight line.

9. As reflected in the diagram that is set forth in both Patents-in-Suit as Figure 7, the measured current will decrease at a predictable rate over the course of time.

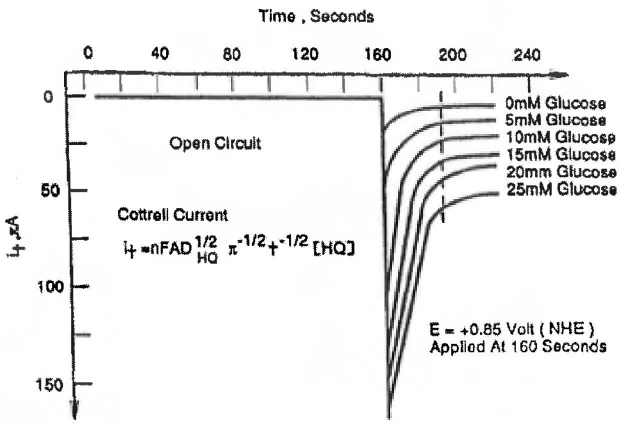

FIG. 7

10. The change in current as predicted by the Contrell equation can be used to verify the accuracy of the test. In other words, current can be measured at two different times to determine whether the electrical current readings are as predicted by the equation. Figure 11 of the '069 reflects electrical current readings that do, and do not, operate in the predicted manner. I have caused the two time lines to be marked as T1 and T2. The electrical readings from samples A, B, C, and D all are consistent with the results predicted by the Contrell equation. The results from sample E, however, are not. This discrepancy suggests that there was a testing error and that the results should be disregarded.

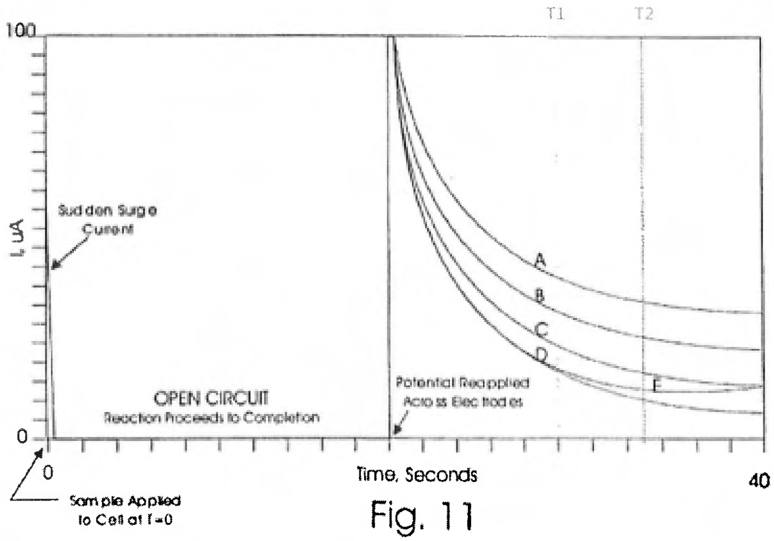

Fig. 11

11. Current readings are key to testing for blood glucose because there is a fixed relationship between those readings and glucose concentration. Higher levels of current demonstrate higher levels of glucose. The following is Figure 6 in both Patents in Suit that reflects the proportionality between glucose concentration and Contrell currents where the test is conducted 30 seconds after the application of the potential (*see* '069 patent, Col. 11, Lns. 35-37).

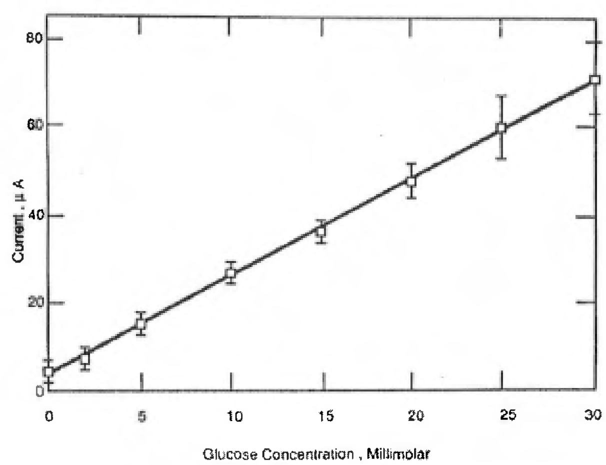

FIG. 6

12. The Patents-in-Suit describe converting at least two current readings to an analyte and comparing the results "to confirm that they are within a prescribed percentage of each other." '069 patent, Claim 1 and '411 patent, Claim 1. This is reflected in Figure 12 of the '069 patent:

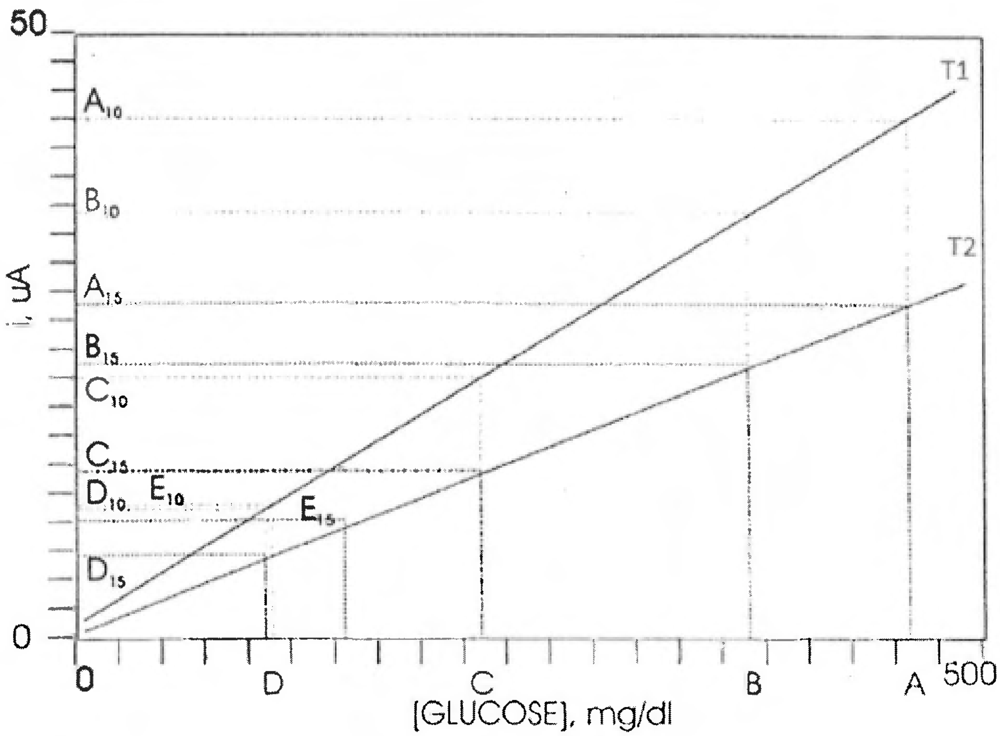

Fig. 12

13. In Figure 12, the current readings from the samples (A through E) are graphed against glucose readings. Currents for each sample have been tested twice and both tests for each sample are plotted along the current range on the left. A10 reflects the current reading in the A sample at 10 seconds and A15 reflects the current reading in the A sample at 15 seconds, *etc*. The straight lines pointed upwards reflect the proportionality between current and glucose levels depending on the number of seconds after the application of the potential. I have caused those lines to be marked T1 and T2. The top line (T1) reflects proportionality after 10 seconds and the lower line (T2) after 15.

14. Samples A through D achieved the expected results. The tests performed on these samples at different times resulted in the same glucose measurement. However, the tests on Sample

E resulted in disparate results, suggesting that the test was a failure and cannot be relied upon by patient or doctor.

15. Critically, the Patents-in-Suit describe, but are not limited to, test strips with one working electrode. The Patents-in-Suit describe a process whereby multiple readings are taken from the single electrode and compared. Neither the claims nor the specifications, however, preclude the Patents-in-Suit from reading on test strips with multiple electrodes.

16. Table 1 reflects the fact that the Accused Product takes a current reading from a sample and converts that reading to analyte. That step, among others, is claimed both Claim 1 of the '069 patent and Claim 1 of the '411 patent.

TABLE 1

Volume μL	Working 1: μA	Working 2: μA	% Difference	Error checked	No error check
1	7.07	0.00	-706800		7.07
1	6.94	5.98	-16.2175732		12.92
1	5.53	0.01	-92050		5.54
1	6.99	7.09	1.42393909	14.09	14.09
1	7.34	7.02	-4.59016393	14.35	14.35
1	7.16	6.79	-5.49742078	13.94	13.94
1	7.01	3.47	-102.13441		10.48
1	7.07	5.69	-24.2578605		12.77
1.2	7.18	4.54	-58.2286847		11.72
1.2	7.00	6.78	-3.35055351	13.78	[illegible]
1.2	7.09	1.79	-297.032475		8.88
1.2	6.31	0.00	-157550		6.31
1.2	6.78	6.79	0.11788977	13.56	13.56
1.2	6.95	6.59	-5.4029443	13.53	13.53
1.2	6.62	6.28	-5.36795158	12.89	12.89
1.2	7.23	3.78	-91.2721502		11.01
1.4	7.16	6.90	-3.76811594	14.06	14.06
1.4	7.14	6.94	-2.88184438	14.08	14.08
1.4	7.17	7.02	-2.13675214	14.19	14.19
1.4	7.02	6.01	-1.5918958	13.93	13.93
1.4	6.95	6.91	-0.5788712	13.86	13.86
1.4	6.93	6.88	-0.72674419	13.81	13.81
1.4	7.09	6.92	-2.4566474	14.01	14.01
1.4	7.25	7.40	2.02702703	14.65	14.65

Sum of current readings used for conversion to analyte concentrations

Source: U.S. Patent 7,250,105.

Per the '105 patent: "In the second half of the test the two currents were first compared. Only if they differed by less than 10% were they then added together and put forward as valid results." Col. 5, lns. 46-48.

17. Defendants infer from the information set forth in Table 1 that products that practice the '105 patent, like the Accused Products, could not infringe. Defendants note that, according to Table 1, two currents are measured from two separate working electrodes ("Working 1" and

"Working 2"), compared, and then added together. Defendants argue that this is the comparison between two samples required by the patent, except that, in the Accused Products, the comparison is performed of the currents prior to the conversion to analyte and therefore the Accused Products do not infringe.

18. However, as set forth in Plaintiffs' charts, Table 1 establishes that the Accused Products perform an electrical current reading and convert that reading into analyte, as required by the Patents-in-Suit. Other evidence, including but not limited to the customer service email set forth in Plaintiffs' charts, suggests that the Accused Products do this at least twice and compare the result. The fact that Table 1 also notes that the current itself is tested prior to being converted to analyte is an additional step that is not excluded by the claims and does not take the Accused Product outside the scope of infringement.

19. Defendants' Motion to Dismiss argues on Page 12 that in another litigation, LifeScan, Inc. v. PharmaTech Solutions, Inc., Case No. 11-cv-4494 (N.D. Cal.), I "did not dispute" Defendants' argument that the Accused Products compared the electrical current from the working electrodes. As noted above, whether the Accused Products compare currents prior to converting the currents to analyte is beside the point. From the evidence attached to Plaintiffs' chart, it appears that the Accused Products convert at least two readings to analyte and compare those measurements to determine the accuracy of the result.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this _29_th day of August, 2016 at _San Diego, CA______[location].

J. Wang

Dr. Joseph Wang

EXHIBIT "1"

CURRICULUM VITAE

NAME:	**Joseph Wang**
TITLE:	SAIC Endowed Chair, Distinguished Professor Chair of Nanongineering, UCSD Director, Center Wearable Sensors (UCSD)
ADDRESSES:	Departments of Nanonengineering University of California San Diego (UCSD) 9500 Gilman Drive, La Jolla, CA 92093-0448, USA e-mail: josephwang@ucsd.edu Web Pages: http://joewang.ucsd.edu/ http://nanoengineering.ucsd.edu/~joewang Phone: (858) 246-0128 FAX: (858)534-9553
EDUCATION:	D.Sc., Chemistry, Technion, I.I.T., Haifa, 1978 Doctor *Honorius Causa*, Complutense University (Spain), 2007 Doctor *Honorius Causa*, University of Alcalá (Spain), 2011.
POSITIONS:	SAIC Endowed Chair of Engineering, UCSD, 2014-present. Distinguished Professor and Chair of Nanongineering, UCSD, 2014- Present Director – Center for Wearable Sensors- UCSD, 2014-present. Professor and Vice Chair of Nanongineering, UCSD, 2008- 2013 Professor of Chemical Engineering and Chemistry, ASU, 2004-2008 Director – Center for Bioelectronics and Biosensors – ASU Biodesign Institute, 2004- 2008 Regents Professor and Manasse Chair, NMSU, 2002- 2004 Founding Editor and Chief-Editor - ***Electroanalysis*** (Wilely-VCH); 1988-present. Assistant, Associate and Full Professor of Chemistry, New Mexico State University, 1980-2004. Research Associate (Postdoctoral Fellow), Chemistry Department, University of Wisconsin-Madison, 1978-1980.
CITATIONS:	**H Index – 112** (from over **56,000 citations of 980 publications**) **(Google Scholar H Index 131; 74,000 citations).**

AWARDS and HONORS: **Heyrovsky Memorial Medal** for excellence in Electrochemistry (Academy of Science of the Czech Republic), 1994.

1999 American Chemical Society Award for *Analytical Instrumentation.*

2006 American Chemical Society Award for *Electrochemistry.*

'Citation Laureate' Award-ISI Institute- World Most Cited Scientist in Engineering during the 1991-2001 and 1995-2005 periods.

NSF - Special Creativity Award, 2008.

Recipient of the 1990 NMSU **Westhafer Award** for excellence in research.

Recipient of the 2001-2002 NMSU **Mannase Chair.**

Regents Professor, NMSU First Regents professor, 2002- 2004

2007 ASU **Faculty Achievement Award** for Cutting-Edge Research

1999 **Fellow** of the Japanese Society for the Promotion of Science.

Honorary Professor – National University, Cordoba (Argentina), 2003.

Electrochemistry Communications Elsevier Award – 2005.

Honorary Member – National Institute of Chemistry, Slovenia – 2007.

Honorary Doctorate Causa– Complutense University, Madrid (Spain)- 2007.

Nanyang Professor - Nanyang Technological University, Singapore, 2007- 2012.

Fellow of the American Institute for Medical and Biological Engineering **(AIMBE), 2009.**

Honorary Doctorate Causa–Alcala University, Alcala (Spain)- 2011.

Honorary Professor – Beijing Science and Technology University (USTB), Beijing (China)- 2011.

Breyer Medal of the Australian Chemical Institute – Perth, Australia (2012)

Kapp Lecturer, University of Virginia , Richmond, VA (2012)

Best Teacher Award, UCSD- Dept of Nanoengineering (2012)

Honorary Doctor- Central Michigan University (2012)

Spiers Memorial Award- Royal Society of Chemistry (2013)

Fellow, Royal Society of Chemistry (2013)

Highly Cited Researcher (Engineering and Chemistry), Thompson Reauters (2014, 2015)

Thompson Reauters List of 2015 **World's Most Influential Scientific Minds**

Sir Louis Matheson Distinguished Visiting Professor, Monash University (Australia), 20115-2018.

Listed in the World **2013 Analytical Power List** (100 most influential people in the analytical sciences).

Named as one of **"The World's Most Influential Scientific Minds"** (2014) Thomson Reuters (both engineering and Chemistry Categories).

Sir Louis Matheson Distinguished Visiting Professor, Monash Univerity (Australia), 20115-2018.

Over 75 **Plenary Lectures and Keynote Addresses** at International Meetings (among over 300 presentations).

<u>**Chief-Editor**</u> - ***Electroanalysis*** (international journal; Wiely-VCH Publishers); 1988-present.
<u>**Associate Editor**</u>- Wiley Encyclopedia of Analytical Chemistry; 2007-present.
<u>**Editorial Advisory Board**</u>: **ACS Nano**, 2015-Present; **ACS Sensors**, 2015-present; **Analyst**, 1989-1995; **Analytica Chimica Acta,** 1992-2007, **Advanced Materials Technologies** - 2016-present **Advanced Electronic Materials** - 2014-present; **Talanta,** 1990-present; **ChemElectroChem,** 2013 – present; **Wiley Nanoscience and Nanotechnology Series**, 2007-present, **Encyclopedia of Analytical Sciences,** 1991-present; **Journal of Microfluidics and Nanofluidics,** 2005-present, **Sensors and Actuators B,** 2008- present, **Nano-Bio-Analysis,** 2010- Present, **Medical Devices**, 2008-present, **Current Nanoscience,** 2011-present, **Analytical Instrumentation,** 1991-present, **Nanoscience & Nanotechnology-ASIA**, 2010-present, **Electrochemistry Communications,** 1998-present, **Theranostics,** 2011-present, **Anal. Letters,** 1991-2995, **Anal. Communications**, 1995-2000, **Sensors**, 2001-present, **Sensors Letters,** 2003-present, **Current Nanoscience**, 2010- present, **Research and Reports in Transdermal Drug Delivery**, 2011-present; **International Journal for Analytical Chemistry**, 2008- present, **Reviews in Environmental Science and Bio/Technology**, 2008-Present,

Analysis Europa, 1994-1998, **Quimica Analitica,** 1997-present; **Current Topics in Analytical Chemistry**, 1996-present , **Int. J. Electrochem. Sci.,** 2006-present, **General Physiolgy and Biophysics,** 1998-present, **Croation Chemica Acta,** 1992-present. **Journal of Chinese Clinical Medicine international,** 2009-present, **Advanced Carbon Materials,** 2012- present.

Research Interests: Our research activity focuses on field of nanobioelectronics aimed at integrating nano- and biomaterials with electronic transducers. Particular attention is being given to the development of advanced nanomotors, nanorobots and nanoactuators, bioelectronics and electrochemical biosensors, wearable sensor systems, and advanced materials for energy harvesting.

Mentoring: Wang has been the mentor of 30 Ph.D. candidates and over 150 research associates and visiting scholars from all 5 continents.

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EXHIBIT "2"

Professor Joseph Wang

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Selected Publications (From a total over 980 peer-reviewed papers; H Index=112):

2016

"Ultrafast Nanocrystals Decorated Micromotors for On-site Dynamic Chemical Processes" B. Jurado-Sanchez, J. Wang, A. Escarpa, *ACS Applied Materials & Interfaces, DOI: 10.1021/acsami.6b05824.*

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